

CLINICAL PICTURE

Erythema multiforme after SARS-CoV-2 messenger RNA vaccination

Case presentation

A 27-year-old Japanese woman presented with an itchy rash which developed 9 days after she received her first dose of the Moderna (mRNA-1273) COVID-19 vaccine. She had no preceding infection, previous medical history, medication or allergic episode. The rash presented round, well-defined papules with a target-like configuration distributed symmetrically on the acral extremities (Figure 1). There was no mucosal involvement or signs of herpes simplex virus infection. Laboratory studies, including a complete blood cell count, liver function tests and acute phase reactants, were normal. Based on the characteristic findings of the rash, erythema multiforme (EM) was clinically diagnosed. The rash spontaneously disappeared 10 days after onset. She received her second vaccination 4 weeks after the first dose but experienced no recurrence of the symptoms.

EM is an immune-mediated, self-limited skin reaction characterized by a target-like configuration, involves the skin and sometimes mucosa, and can be clinically diagnosed.¹ EM lesions are typically distributed symmetrically on the extremities, especially on the extensor surfaces, while the present case was slightly atypical in that the lesions were also distributed on the flexor surfaces. Urticaria is a major differential diagnosis of EM and is the most common systemic skin reaction to COVID-19 vaccines although it can be distinguished clinically from EM by its clinical course; urticaria usually lasts less than 24 h whereas EM typically presents fixed lesions lasting a minimum of 7 days.¹

EM can be triggered by a variety of vaccines. Few cases associated with the COVID-19 vaccines have thus far been

reported although underreporting may be partially responsible for the apparent paucity of cases, given the tremendous number of COVID-19 vaccinations that have been administered globally.^{2–5} Cutaneous reactions due to COVID-19 mRNA vaccines in areas distant from the injection site have occurred in about 2% of vaccine recipients, but more importantly, 83% of individuals with a cutaneous reaction after the first vaccination may receive their second dose without a recurrence of the symptoms, as in the present case.⁶ Clinicians should be aware of the diversity of cutaneous reactions due to COVID-19 mRNA vaccines and should inform and reassure patients with an initial skin reaction that they may safely receive their second vaccination.

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Patient consent

Consent to publish the details of the case was obtained from the patient.



Figure 1. (A-G) Round, well-defined papules with a target-like appearance (yellow arrows) distributed symmetrically on the acral extremities.

Acknowledgements

We thank Mr James R. Valera for his assistance with editing the manuscript.

Conflict of interest. None declared.

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